

Name: \_\_\_\_\_

**at1124exam: Radicals and Squares (v909)**

**Question 1**

Simplify the radical expressions.

$$\sqrt{12}$$

$$\sqrt{75}$$

$$\sqrt{45}$$

**Question 2**

Find all solutions to the equation below:

$$3((x+5)^2 - 8) = 84$$

**Question 3**

By completing the square, find both solutions to the given equation. *You must show work for full credit!*

$$x^2 + 18x = -56$$

**Question 4**

Any quadratic function, with vertex at  $(h, k)$ , can be expressed in vertex form:

$$y = a(x - h)^2 + k$$

A quadratic function is shown below in standard form.

$$y = 2x^2 - 20x + 41$$

Express the function in **vertex form** and identify the **location** of the vertex.